

Bureau of Reclamation Water Use Efficiency Recommendations for the Delta Vision Blue Ribbon Task Force

Water Management Planning

Reclamation requires all water distributors who either deliver 2,000 acre-feet of water annually, or have a service population of greater than 3,300, to prepare and implement water conservation plans. As part of their contractual agreement, M&I districts are required to implement the Urban Council's MOU, and Reclamation agricultural contractors are required to implement Water Management Plans that include Best Management Practices similar to those of the Agricultural Council's Efficient Water Management Practices. However, Reclamation's requirements for water measurement and volumetric pricing are mandatory while the Councils' processes allow for exemptions from water measurement and volumetric pricing, based on cost effectiveness. We would encourage the state develop water conservation standards for all state contractors at the higher levels required of Reclamation contractors. This would result in an equal playing field for all water purveyors and set the bar statewide at a higher level than what currently exists with a voluntary process.

Standard Performance Measures

An important element in determining the effectiveness of water use efficiency measures is the quantification of benefits derived from the measure. Although some work has been done to standardize the quantification of benefits (performance measures), current quantification measures need to be refined, uniform, and mandatory in order to be effective. Given the limited resources and multiple alternatives available to address the Bay Delta crisis, it is critical that we measure and quantify the benefits from the implementation of Best Management Practices and other water use efficiency activities. The urban sector has had greater success in using quantification measures than the agriculture sector, mainly because it is much easier to calculate water savings from installing devices such as low flush toilets, than to calculate savings from modernizing a canal structure. However, there are still practices in each sector that are difficult to measure; and therefore, require the development and refinement of uniform performance measures.

Baseline Data Collection

In order for performance measures to be effective and meaningful, a better understanding of baseline data on groundwater resources, crop water use, and district outflows is needed. To estimate the effectiveness of implementing various measures, it is essential to have accurate baseline data to compare. In California, accurate baseline information on groundwater extractions, crop specific water use, and district outflows are generally not available. With the state's commitment to dedicate the resources and incorporate data collection into new laws/policies, this information can be developed. For example, crop specific water use accuracy is in the range of +/- 10%. In addition, the DWR statewide water use estimate is based on verification of only about 20% of the annual crops because verification is currently too time consuming and difficult, new technology, such as satellite remote sensing, is becoming available and affordable which can make verification easier. Satellite remote sensing technology is a reliable way to determine cropping patterns and could eventually be used for the entire state. Satellite technology can also be used to estimate water use on a watershed basis.

Technical Assistance and Technology Transfer

Reclamation has had success partnering with universities, and urban and agricultural councils to provide technical assistance and technology transfer to water districts. One successful agricultural program is with Cal Poly, San Luis Obispo's Irrigation Training and Research Center (ITRC). ITRC staff performs a rapid assessment of water districts, analyzing the water delivery and measurement systems. A rapid assessment utilizes the expertise at Cal Poly to assess and provide a written report identifying the most cost effective ways to improve a district's water management. Water districts can then seek funding or fund on their own the most cost effective recommendations that are developed through an assessment. This type of program should be established statewide for both agricultural and urban sectors.

Public Education

Public Water Conservation Education needs to be maintained to help instill the water conservation ethic in the state. We have been a sponsor of the Water Education Foundation's Water Education for Teachers (WET) Program for the last decade where teachers are trained to provide classroom activities related to water education. Students who are taught the benefits of conserving and protecting water quality are more likely to develop into good stewards of water resources as adults.